PAVLYUCHENKO, M.M., akademik; ALEKSANDROVICH, Kh.M.; MARKIN, A.L.

Defectometric techniques for the separation of impurities from rock salt. Dokl. AN SSSR 157 no.5:1210-1212 Ag '64. (MIRA 17:9)

1. Institut obshchey i neorganicheskoy khimii AN BSSR.
2. AN BSSR (for Pavlyuchenko).

MARKIN, A.G.

From practices in the cold welding of metals. Avtom. svar. 17 no.5:
73-77 My '64. (MIRA 17:[illegible]

1. Moskovskiy elektrozavod imeni Kuybysheva.

MARKIN, A.G.

2

Influence of vitamins and hormones on the rapidity of transmitting impulses along nerves. I. I. Bashlykov and A. O. Markin. *Uchenye Zapiski Molotov. Gosudarst. Univ. im. A. M. Gor'kogo* 7, No. 3, 113-24(1955).—The speed of transmission (detd. with a frog sciatic nerve-muscle prepn.) was increased by the presence of thiamine, ascorbic acid, cortin, and adrenaline. On washing the added material away, the rate returned to close to the original. A 1:2000 concn. of NaF decreased the rate and the addn. of ascorbic acid, adrenaline, or cortin no longer had any effect. The transmission of impulses is due to metabolic processes.

John Howe Scott

USSR/Human and Animal Physiology. Digestion. The Stomach. T-7

Abs Jour: Ref Zhur-Biol., No 12, 1958, 55725.

Author : Dmitriyeva, T.P.~~, Markin, A.G.~~
Inst : Molotov Institute of Medicine.
Title : The Effect of Prolonged Proprioceptive Influences Upon the Peristaltic Stomach Activity.

Orig Pub: Tr. Molotovsk. med. in-ta, 1957, vyp. 26, 50-54.

Abstract: In 2 dogs with a Basov stomach (S) fistula, application of a fixed plastercast to a healthy extremity intensified the hunger movements of the stomach, prolonged the periods of its activity, and increased the tonus of the stomach. During the next few days, the effect of such an immobilization of an extremity upon the peristaltic activity during hunger periods has diminished, a fact which points to an adaptation

Card : 1/2

USSR/Human and Animal Physiology Digestion. The Stomach. T-7

Abs Jour: Ref Zhur-Biol., No 12, 1958, 55725.

process of the central nervous system (CNS) to the existing prolonged irritation. After the cast was removed, the stomach's motor response returned to normal. The stomach's food evacuation (300 gr of jello) was observed on 4 dogs. A 2 kg load was put on the animals' back immediately after feeding them the jello for 40-50 minutes, and again after a 5-6 minutes of rest, which was repeated until the stomach has disposed of all its food content. This procedure accelerated evacuation of the stomach by about 5 percent. When a 5-6 kg load was used. evacuation speed was increased by 14-24 percent.

Card : 2/2

MARKIN, A.G.

Graphic registration of gastric "point" peristalsis in dogs [with summary in English]. Biul.eksp.biol. i med. 44 no.7:116-117 Jl '57.
(MIRA 10:12)

1. Iz kafedry normal'noy fiziologii Molotovskogo meditsinskogo instituta (zav. - prof. M.P.Mogendovich). Predstavlena deystvitel'-num chlenom AMN SSSR prof. V.V.Parinym.
(STOMACH, physiology,
peristalsis in dog, registration (Rus))

MARKIN, A. G.: Master Biol Sci (diss) -- "The effect of muscular work, immobilization, and temperature stimuli of the extremities on the motor activity of the stomach of dogs". Perm', 19[illegible]. 1[illegible] pp (Perm' State Med Inst), 1[illegible] copies (KL, No [illegible], 19[illegible], 1[illegible])

MARKIN, A.G.

Effect of static tensions on gastric evacuation in dogs [with summary in English]. Fiziol.zhur. 44 no.6:548-553 Je '58 (MIRA 11:7)

1. Kafedra normalnoy fiziologii Meditsinskogo instituta, Perm'.
(STOMACH, physiology,
motor funct., eff. of weight carrying in dogs (Rus))
(EXERCISE, effects,
weight carrying on gastric motor funct. in dogs (Rus))

MARKIN, A.G.

Effect of static stresses on respiratory movements of the human chest. Uch. zap. Perm.gos. un. 13 no.1:103-107 '60.
(MIRA 14:11)

(Respiration)
(Exercise)

MARKIN, A.G.

Mechanism of the curaneous galvanic reflex in muscular tension. Eksp. issl. po fiziol., biokhim. i farm. no.3:171-184 '61 (MIRA 16-12)

1.Permskiy gosudarstvennyy universitet.

MARKIN, A.I.

Cast dies. Lit. proizv. no.1:23-24 Ja '58. (MIRA 11:2)
(Steel castings) (Dies (Metalworking))

MARKIN, A.I.

Program control of equipment in the enterprises of the Moscow City Economic Council. Mashinostroitel' no.3:8-10 Mr '63.
(MIRA 16:4)

(Moscow—Machinery industry)
(Automatic control)

MARKIN, Aleksandr Ivanovich

[Dental handpiece and flexible cables] Rukav bormashiny i zubovrachebnye nakonechniki. Moskva, Medgiz, 1959. 32 p.
(MIRA 13:7)

(DENTAL INSTRUMENTS AND APPARATUS)

MANEVICH, A.Z.; MARKIN, A.I.; MIKHEL'SON, V.A.

Anesthesia by the use of a mixture of nitrous oxide, oxygen and fluorothane (fluothane) in a stomatological polyclinic. Stomatologiia 42 no.3:37-41 My-Je'63 (MIRA 17:1)

1. Iz kafedry fakul'tetskoy khirurgii (zav. - zasluzhennyy deyatel' nauki prof. I.S. Zhorov) sanitarno gigiyenicheskogo fakul'teta I Moskovskogo ordena Lenina meditsinskogo instituta imeni I.M.Sechenova.

MARKIN, A. K.

MARKIN, A. K. "The Cotton Plant Quarantine in the Tadzhik Soviet Socialist Republic," Vestnik Zashchity Rastenii, no. 4, 1940, pp. 39-42. 421 P942

SO: SIRA SI-90-53, 15 Dec. 1953

MARKIN, A.K.

[Pests and diseases of corn] Vrediteli i bolezni kukuruzy. Moskva, Gos. izd-vo sel'khoz. lit-ry, 1956. 60 p. (MLRA 10:2)
(Corn (Maize)--Diseases and pests)

MARKIN, A.V.

Control of hymenolepiasis in Nizhnii Tagil. Med.paraz. i paraz.bol. supplement to no.1:68 '57. (MIRA 11:1)

1. Iz Nizhnetagil'skoy gorodskoy sanitarno-epidemiologicheskoy stantsii
(NIZHNII TAGIL--TAPEWORMS)

MARKIN, A.K., kand.sel'skokhoz.nauk

The way is barred tc foreign cotton pests. Zashch. rast. ot vred. i bol. 2 no.6:49-51 N-D '57. (MIRA 16:1)
(Cotton--Diseases and pests) (Plant quarantine)

PETROV, Aleksandr Iosifovich, prof., doktor biolog.nauk; VATOLKINA, K.A., kand.sel'skokhozyaystvennykh nauk; MARKIN, A.K., kand. sel'skokhozyaystvennykh nauk; BARANOV, M.F., red.; SOKOLOVA, N.N., tekhn.red.; DEYEVA, V.M., tekhn.red.

[Protecting cotton plants from pests and diseases] Zashchita khlopchatnika ot vreditelei i boleznei. Moskva, 1958. 486 p. (Cotton--Diseases and pests) (MIRA 12:1)

MARKIN, A.K., kand.sel'skokhozyaystvennykh nauk

New method of detecting pink bollworm in cotton. Zashch. rast. ot vred. i bol. 3 no.4:49-50 Jl-Ag '58. (MIRA 11:9)
(Bollworm) (Cotton--Diseases and pests)

MARKIN, A.K. kand.sel'skokhoz.nauk

Ways of the spreading of the Colorado beetle. Zashch. rast.ot vred. i bol. 4 no.4:49-50 Jl-Ag '59. (MIRA 16:5)

(Potato beetle)

MARKIN, A.K., kand.sel'skokhoz.nauk; TRONOV, V.N., agronom-entomolog

Tent from synthetic film for fumigation purposes. Zashch.rast. ot vred.i bol. 5 no.7:41-43 Jl '60. (MIRA 16:1)

1. TSentral'naya laboratoriya po karantinu rasteniy Ministerstva sel'skogo khozyaystva SSSR.
(Fumigation--Equipment and supplies)

MARKIN, A.K., kand.sel'skokhoz.nauk; RATANOVA, V.F., kand.biolog.nauk

Disinfecting rife with methyl bromide in the holds of ships and barges. Zashch. rast. ot vred. i bol. 6 no.12:37-39 D '61.
(MIRA 16:5)

MARKIN, A.K.

At the seminar of toxicologists. Zashch. rast. ot vred.
i bol. 7 no.7:15 Jl '62. (MIRA 15:11)
(Plants, Protection of)

MARKIN, A.K., kand.sel'skokhoz.nauk; KUCHEROVA, S.G., agronom toksilog

Khapra beetle. Zashch. rast. ot vred. i bol. 7 no.11:54-55 N '62.
(MIRA 16:7)

MARKIN, A.K.

The weevil Callosobruchus chinensis in cotton fiber. Zashch. rast. ot vred. i bol. 7 no.12:49 D '62. (MIRA 16:7)

(Cotton—Diseases and pests) (Weevils)

MARKIN, [illegible], kand. sel'skokhoz. nauk

Control disinfection. Zashch. rast. ot vred. [illegible]
[illegible]

(MIRA [illegible])

MARKIN, A.K.

Insects in **airplanes.** Zashch. rast. ot vred. i bol. 9 no.12:43-44 '64. (MIRA 18:4)

1. TSentral'naya karantinnaya laboratoriya Ministerstva sel'skogo khozyaystva SSSR.

TYURIN, V.F., inzh.; MARKIN, A.M., inzh.

Consultation on readers' letters. Svar.proizv. no.11:48 N '62..
(MIRA 15:12)

1. Komitet po nadzoru za bezopasnym vedeniyem rabot v promyshlennosti i gornomu nadzoru pri Sovete Ministrov SSSR (for Markin).
(Welding)

OKOROKOV, A.A., otv. red.; MALKIN, A.F., otv. red.;
BEREZOVSKIY, V.I., red.; DOLGUSHIN, [illegible], red.;
KIRILLOV, I.Ye., red.; MIKHAYLOV, G.N., red.;
NEVZOROV, L.A., red.; NIKOLAYEVSKIY, G.M., red.;
ROZHDESTVENSKIY, V.A., red.; [illegible], P.N., red.;
KHODOV, M.P., red.; SHAKHOV, [illegible], red.

[Regulations for the design and safe operation of load-lifting cranes] Pravila ustroistva i bezopasnoi ekspluatatsii gruzopod"emnykh kranov. Moskva, Nedra, 1965. 127 p. (MIRA 18:7)

1. Russia (1917- R.S.F.S.R.) Gosudarstvennyy komitet po nadzoru za bezopasnym vedeniyem rabot v promyshlennosti i gornomu nadzoru.

MARKIN, A.M., inzh.

New regulations concerning the construction and safe operation of cranes. Stroi. i dor. mash. 10 no.7:27-29 Jl '65.

(MIRA 18:8)

MARKIN, A.M.

New regulations for crane operation. Mashinostroitel' no.11:43 O '65.
(MIRA 18:10)

MARKIN, A.P.; LUKIN, Ye.P.; PETROVA, Ye.K.; VOROB'YEV, A.A.

Study of botulin anatoxins. Report No. 3: Botulin anatoxin type.
Zhur.mikrobiol., epid.i immun. 32 no.12:96-99 D '61.
(MIRA 15:11)
(BOTULISM) (TOXINS AND ANTITOXINS)

MARKIN, A. P. (Engineer)

"Development of processes of [illegible] welding at the electr[illegible] factory [illegible]

Report presented at the regular conference of the Moscow city administration NTO Mashprom, April [illegible].
(Reported in Avtomaticheskaya Svarka, No. [illegible], August [illegible], pp [illegible], V. M. [illegible])

JPRS24,[illegible] - [illegible] May 64

L 13008-66 EWT(m)/EWP(j) RM

ACC NR: AP6001634 SOURCE CODE: UR/0051/65/019/006/0856/0863

AUTHOR: Kaplan, I. G.; Markin, A. P.

53

52

B

ORG: none

TITLE: Calculation of cross sections for excitation of molecular levels during collision with fast electrons and the rule for additive atomic stopping powers

SOURCE: Optika i spektroskopiya, v. 19, no. 6, 1965, 856-863

TOPIC TAGS: excitation cross section, electron, ~~atomic physics, mathematic model~~ computer calculation, molecule, chemical bonding

ABSTRACT: An expression is derived for the averaged excitation cross section of a definite molecular level in the Born approximation and by using the method of molecular orbitals. A BESM-2 computer was programmed for calculating the excitation cross sections for π-electron levels of the benzene molecule within the framework of the metallic model. The results are tabulated. These data are compared with the excitation cross sections computed according to the additive hypothesis, as well as with experimental data in the literature. The results do not support the hypothesis of unusually large cross sections for absorptions of energy by π-electrons. The

Card 1/2

UDC: 539.196.5.001.1

2

L 13008-66
ACC NR: AP6001634

effect which chemical bonding has on the atomic stopping power may apparently be disregarded within a wide energy range up to incident particle velocities slightly greater than the velocity of molecular electrons. At lower velocities, chemical bonding must be taken into consideration. In conclusion we consider it our pleasant duty to thank I. I. Sobel'man for useful consultation. Orig. art. has: 3 tables, 24 formulas.

SUB CODE: 20/ SUBM DATE: 24Sep64/ ORIG REF: 004/ OTH REF: 018

Card 2/2

ACCESSION NR: AP4020972 S/0051/64/016/003/0536/0538

AUTHOR: Bazhulin, P. A.; Maly*shev, V. I.; Markin, A. S.; Rakov, A. V.; Bagdasarov, Kh. S.

TITLE: Investigation of the luminescence and stimulated emission spectra of different CaF_2 crystals doped with U^{3+}

SOURCE: Optika i spektrokopiya, v. 16, no. 3, 1964, 536-538

TOPIC TAGS: stimulated emission, laser, uranium ion luminescence, trivalent uranium, trivalent uranium emission, trivalent uranium luminescence, calcium fluoride, uranium doped calcium fluoride, luminescence center, lasing center

ABSTRACT: Investigators (P.P.Sorokin and M.J.Stevenson,Phys.Rev.Letters,5,557,1960; and Adv.in Quant.Electr.65,1961) have observed stimulated emission (laser output) from $CaF_2:U^{3+}$ crystals, but in different specimens exhibit different wavelengths (2.5, 2.6, and 2.24 mμ). These differences are attributed to different symmetry of the field about the U^{3+} ions in the crystal lattice. The authors investigated different $CaF_2:U^{3+}$ crystals grown at the Institute of Crystallography of the Academy of Sciences; some lased only at 2.5 or 2.6 mμ, but a few specimens exhibited stimulated emission simultaneously at 2.510 ± 0.005 and 2.605 ± 0.005 mμ.

Card 1/3

ACCESSION NR: AP4020972

These are referred to as "mixed" crystals. In view of the desirability in some cases of having a laser with several wavelengths in the present work there were studied and compared the luminescence and stimulated emission spectra of the "mixed" crystals and, for comparison, of the "single-wavelength" crystals. The luminescence spectra were recorded under infrared flash tube excitation by means of a ZMR-3 mirror monochromator equipped with an InSb detector. The spectra were recorded at different temperatures in the range from 0 to -175°C. In the luminescence spectra of "mixed" crystals there appear lines at both 2.5 and 2.6 mμ; with decrease in temperature these become narrower, and the 2.6 mμ line become relatively more intense. The same two lines, exhibiting the same temperature behavior, were observed in the luminescence spectra of the "simple" crystals yielding stimulated emission only at 2.6 mμ. It is inferred from the behavior of the different crystals that the "mixed" crystals may be regarded as a mechanical mixture of two different forms of U^{3+} ions, with different symmetry, which emit independently of one another. This inference is supported by the results of measuring the temperature dependences of the lasing threshold for the "2.5 mμ", "2.6 mμ", and "mixed" crystals: the different types of U^{3+} ions (centers) act as independent sources of coherent radiation. During the preparation of the present report a paper by J. Wittke, Z.Kiss,

Card 2/3

ACCESSION NR: AP4020972

R. Duncan, and J. McCormick (Proc.IEE,51,56,1963) appeared, reporting similar studies and some of the same inferences. Orig. art. has: 2 figures.

ASSOCIATION: none

SUBMITTED: 31May63	DATE ACQ: 02Apr64	ENCL: 00
SUB CODE: PH	NR REF SOV: 002	OTHER: 004

Card 3/3

L 65227-65 EWA(k)/FBD/EWT(l)/EWP(e)/EWT(m)/EEC(k)-2/EWP(i)/T/EWP(k)/EWP(b)/
EWA(m)-2/EWA(h) IJP(c) WG/WH

ACCESSION NR: AP5014241 UR/0386/65/001/003/0049/0052

60
58
B

AUTHOR: Malyshev, V. I.;44 Markin, A. S.;44 Petrov, V. S.44

TITLE: Passive Q-switch in a neodymium-eloped glass laser

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy 16,44 fiziki. Pis'ma v redaktsiyu. Prilozheniye, v. 1, no. 3, 1965, 49-52

TOPIC TAGS: laser, neodymium glass laser, 3,44 liquid Q switch, photochemical shutter, giant pulse

ABSTRACT: A short description was presented of an experimental neodymium glass laser system with a liquid Q-switch to produce giant laser pulses. The active element was a neodymium glass rod, and the passive cavity Q-switching element, a polymethine dye solution in methanol. A single symmetrical pulse of 35 nsec duration and about 5-Mw peak was generated with a solution of about 40% transmittance and a generation threshold of 3000 joules. The total energy output of the pulse was about 7% of the total ordinary laser output at equal input energy. Air breakdown (spark) was observed at 5-Mw power at the focus of the lens which was located between one of the external mirrors and the recording coaxial photocell. A nonsymmetrical pulse was recorded as a result of increased absorption in the plasma formed in the discharge. Orig. art. has: 2 figures [JK]

Card 1/2

L 65227-65

2

ACCESSION NR: AP5014241

ASSOCIATION: Fizicheskiy institut Akademii nauk SSSR [Physical Institute, Academy of Sciences, SSSR]

SUBMITTED: 05Apr65 ENCL: 00 SUB CODE: EC

NO REF SOV: 000 OTHER: 003

Card 2/2

L 62765-65 EWA(k)/FBD/EWG(r)/EWT(1)/EWP(e)/EWT(m)/EEC(k)-2/EWP(i)/T/EEC(b)-2/EWP(k)/
EWA(m)-2/EWA(h) Pm-4/Pn-4/Po-4/Pq-4/Pf-4/Peb/Pi-4/Pl-4 IJP(c) WG/JAJ/WH

ACCESSION NR: AP5019589 UR/0386/65/001/006/0011/0014

AUTHOR: Malyshev, V. I.; Markin, A. S.; Petrov, V. S.; Levkoyev, I. I.; Vompe, A. F.

TITLE: Neodymium-glass laser with near-critical single pulses

25

59
58
B

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma v redaktsiyu. Prilozheniye, v. 1, no. 6, 1965, 11-14

15

TOPIC TAGS: neodymium laser, glass laser, Q switching, passive switching, pentacarbocyanine, pulsewidth control

ABSTRACT: An attempt was made to find a phototropic material which would provide switching of a neodymium-glass laser with pulsewidths near the critical. One type of pentacarbocyanines was found to give single pulses with short duration. The experimental laser consisted of a neodymium rod 120 mm in length and 12 mm in diameter. The effective length of the resonator L_{eff} was 55 cm, which consisted of two external mirrors with $R_1 = 99\%$ and $R_2 = 40\%$. The transmission coefficient of the solution-containing tube placed between the neodymium rod and the 99% mirror for $\lambda = 1.06$ μm was 20%. Under these conditions a ∿10-nanosec single pulse was obtained. With a 3000-j pumping energy the pulse power was ∿50 Mw and a spark was observed at the focus of the f = 500 mm lens. An increase in L_{eff} caused a nonlinear increase

Card 1/2

L 62765-65

ACCESSION NR: AP5019589

in pulsewidth, and at L_{eff} = 300 cm the pulsewidth was ∿330 nanosec. At L_{eff} = 55 cm, a pulsewidth of ∿10 nanosec corresponded to a quintuple passage of a quantum between mirrors. The results indicate that the pulsewidth is practically critical and is determined by the L_{eff} and not by the switch. The switching time was less than 10 nanosec. A further reduction of L_{eff} and an increased initial inverse population of the metastable level will result in even shorter single pulses. Orig. art. has: 1 figure. [YK]

ASSOCIATION: Fizicheskiy institut im. P. N. Lebedeva Akademii nauk SSSR (Physics Institute, Academy of Sciences SSSR)

SUBMITTED: 04May65 ENCL: 00 SUB CODE: EC

NO REF SOV: 004 OTHER: 003 ATD PRESS: 4056

awm

Card 2/2

L 11142-66 EWP(e)/EWT(m)/EWP(b) WH

ACC NR: AP6000022 SOURCE CODE: UR/0368/65/003/005/0415/0420

AUTHOR: Malyshev, V. I.; Markin, A. S.; Petrov, V. S.

ORG: none

TITLE: Investigation of emission in extra-axial directions in cylindrical specimens of neodymium glass

SOURCE: Zhurnal prikladnoy spektroskopii, v. 3, no. 5, 1965, 415-420

TOPIC TAGS: neodymium, optic glass, solid state laser, laser emission

ABSTRACT: This paper gives the results of a systematic experimental investigation of laser emission in extra-axial directions. The specimens were cylindrical and square glass rods with semi-reflecting ends and highly polished lateral surfaces. Optically uniform neodymium glass was used. Emission on a wavelength of 1.06 μ was recorded both photoelectrically and photographically. Distribution of radiative energy on the end of the specimen takes the form of rings, with no emission in the axial modes at pumping energies slightly higher than the emission threshold value (20%). Increasing the pumping energy leads to the appearance of more rings with a different emission threshold for each of them. Emission was observed at considerable angles to the axis of the specimens (up to 70°). When the lateral surfaces of the specimens were properly finished, no axial emission was observed even when the pumping energy exceeded

Card 1/2 UDC: 535.89

L 11142-66

ACC NR: AP6000022

2

the emission threshold by a factor of three. The actual path of the beam within the specimen was determined by studying the distribution of radiative energy in the near and far zones. It was found that the beam follows a closed three-dimensional path within the laser. The time relationship between various points in the far zone was also studied. "In conclusion we thank P. A. Bazhulin for constant interest in this work, and S. G. Rautian for useful consultation." Orig. art. has: 2 figures and 2 formulas. [14]

SUB CODE: 20/ SUBM DATE: 23Feb65/ ORIG REF: 004/ OTH REF: 003

ATD PRESS: 4173

60

Card 2/2

L 22195-66 EWT(1)/EWP(e)/EWT(m)/EWA(k)-2/T/EWP(k)/EWA(h) IJP(c) WG/WH

ACC NR: AP6007213 SOURCE CODE: UR/0056/66/050/002/0339/0342

53
4/1
B

AUTHOR: Malyshev, V. I.; Markin, A. S.

ORG: Physics Institute im. P. N. Lebedev, Academy of Sciences SSSR (Fizicheskiy institut Akademii nauk SSSR)

TITLE: Discrimination of axial oscillation modes in a laser 25 with external mirrors

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 50, no. 2, 1966, 339-342

TOPIC TAGS: laser modulation, laser radiation, resonator, neodymium glass

ABSTRACT: The purpose of the investigation was to observe beats produced in a neodymium-glass laser by interference between axial modes, and to investigate the dependence of the beat frequency and the resultant modulation on the distance between the mirrors and on the location of the neodymium-glass rod inside the laser cavity. A laser with external mirrors having reflection coefficients of 98 and 65%, respectively, was used. The neodymium-glass 15 rod was 12 mm in diameter and 120 mm long. The Q switching was by means of a bleaching filter, described by the authors earlier (Pis'ma ZhETF v. 1, no. 3, 49, 1965), installed near one of the mirrors. The laser emission was recorded with a coaxial photocell connected directly to the deflecting plates of an oscilloscope. The optical length of the resonator could be varied between 40 and 320 cm. As the length was increased from 40 to ~150 cm, the duration of the giant pulse increased from 25 to 80 nsec, and the waveform of the pulse remained smooth. At greater lengths a regular structure appeared on the waveform, with a period 2L/c (L -

Card 1/2

2

L 20193-66

ACC NR: AP6007213 4

resonator length, c - velocity of light). The structure and its depth of modulation were unstable from pulse to pulse if the entire output of the rod struck the photocell, but the use of a diaphragm increased both the stability and the depth of modulation. The beats are shown to be connected with the existence of isolated generation regions in different parts of the rod cross section, and the diaphragm is shown to decrease the contribution of the nonaxial modes to the radiation incident on the photocell. When the neodymium-glass rod is moved along the resonator (whose length is kept constant at 320 cm) the modulation frequency also changes, but this change occurs abruptly at a certain distance between the center of the rod to the mirror. It is shown that this behavior can be explained by regarding the resonator + rod system as a compound waveguide and calculating the change in the parameters of this compund waveguide resulting from displacement of the rod. A similar discrimination is observed also when the laser was operated without Q switching, in the usual spike mode, but the depth of modulation is smaller. "The authors thank P. A. Bazhulin for interest, T. I. Kuznetsova and S. G. Rautian for discussions, and Yu. S. Ivanov for help with the experiments." Orig. art. has: 2 figures and 1 table." [02]

SUB CODE: 20/ SUBM DATE: 03Aug65/ ORIG REF: 004/ OTH REF: 004/ ATD PRESS: 4214

Card 2/2 mjs

L 32006-66 FBD/EWT(1)/EEC(k)-2/T/EWP(k) IJP(c) WG
ACC NR: AP6020198 SOURCE CODE: UR/0056/66/050/006/1458/1463

AUTHOR: Malyshev, V. I.; Markin, A. S.

ORG: Physics Institute im. P.N. Lebedev, AN SSSR (Fizicheskiy institut AN SSSR)

TITLE: Investigation of the dependence of duration and form of a giant pulse on the coefficient of inversion population

SOURCE: Zh eksper i teor fiz, v. 50, no. 6, 1966, 1458-1463

TOPIC TAGS: laser pulsation, nanosecond pulse, pulse duration modulation, pulse shape

ABSTRACT: The possibility of an experimental quantitative verification of the theory of giant pulse formation was investigated. Lasers with neodymium glass rods of different sizes were used in the experiment. A solution of polymethine coloring material in nitrobenzene was used as a passive Q-switch. By changing the concentration of this substance the transmission coefficient of the solution was varied from 0.35 to 0.98. The duration and shape of giant pulses were measured for various values of population inversion, and the results were compared with the theoretical predictions. The experiment showed a good agreement between the values of the giant pulse duration, calculated theoretically and obtained experimentally in a range of N_i/N_p from 1.8 up to 4.5 (N_i is the density of population inversion. When Q is restored, N_p is the density of population inversion when the pulse reaches

Card 1/2

maximum), i.e., for the range which is of the greatest interest from the point of view of obtaining short pulses with high peak intensity. In the range of smaller values of N_i/N_p, from 1.1 to 1.8, the experimental values differ from theoretical by a magnitude larger than the possible experimental error. Going to the range of $N_i/N_p < 1.4$ simultaneously with the deviation of experimental values of pulse duration from the values predicted by theory, the form of the giant pulse changes also. The authors thank Yu. S. Ivanov for his help in performing the experiment. Orig. art. has: 4 figures, 4 formulas, and 2 tables. [JA]

SUB CODE: 20/ SUBM DATE: 13Dec65/ ORIG REF: 004/ OTH REF: 004/ ATD PRESS: 5021

GVOZDEV, Mikhail Mikhaylovich; YAKOVKIN, Vladimir Avenirovich; BOGOLYUBSKIY, G.N., redaktor; MARKIN, A.V., redaktor; KANEVSKAYA, M.D., redaktor; KARYAKINA, M.S., tekhnicheskiy redaktor

[Atomic weapons and atomic defense] Atomnoe oruzhie i protivoatomnaia zashchita. Moskva, Izd-vo DOSAAF, 1956. 172 p. (MLRA 9:12)
[Microfilm]
(Atomic bomb- Safety measures)
(Atomic weapons)

MARKIN, A.V.

[illegible]
urban transportation. Trudy [illegible]

MARKIN, A.Ye.; SHULIK, Ye.M.

Increasing the cutting speed of disk shears. Sbor.rats.predl.vnedr.v proizv. no.1:16-17 '61. (MIRA 14:7)

1. Alchevskiy metallurgicheskiy zavod.
(Shears (Machine tools))

MARKIN, A.Ye.; ROSPASIYENKO, V.I.

Reconditioning pusher rods of heating furnaces.
Sbor.rats.predl.vnedr.v proizv. no.1:32 '61. (MIRA 14:7)

1. Alchevskiy metallurgicheskiy zavod.
(Furnaces, Heating--Maintenance and repair)

MARKIN, B., inzh.-podpolkovnik

At large slip angles. Av.i kosm. 45 no.2:54-56 F '63. (MIRA 16:2)

(Aeronautics—Flights)

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

CA

2

The natu of the electrical conductivity of borate glasses of lo alkali content. R. Myuller and B. Markin. *Acta Physic him. U. R. S. S.* 1, 160-7(1934)(in German). he existence of the polarization phenomenon is detd. by omparison at temps. at which the sp. elec. conds. κ are equal. The temps. corresponding to given values of κ for glasses contg., resp., 2.6 and 25% Na_2O are $4 \times 10^{-}$ at — and 328°, 5×10^{-7} at 447° and 243°, 10^{-10} at 317 and 72°, 4×10^{-11} at 258° and —. Polarization phenom na are not shown by these glasses at 317° and 72°, re ., or below. Glasses with less than 5.5% Na_2O do no show polarization because the effect, due to low κ value is observable only at temps. above the softening ra ge or after a very long time. The cond. of borate g sses is an ionic, not an electronic, cond. On this ass ption the observed κ for Merck's Acidum boricum fu m pro analysi indicates a Na_2O content of 0.002 mole . F. H. Rathmann

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

2ND ORDERS

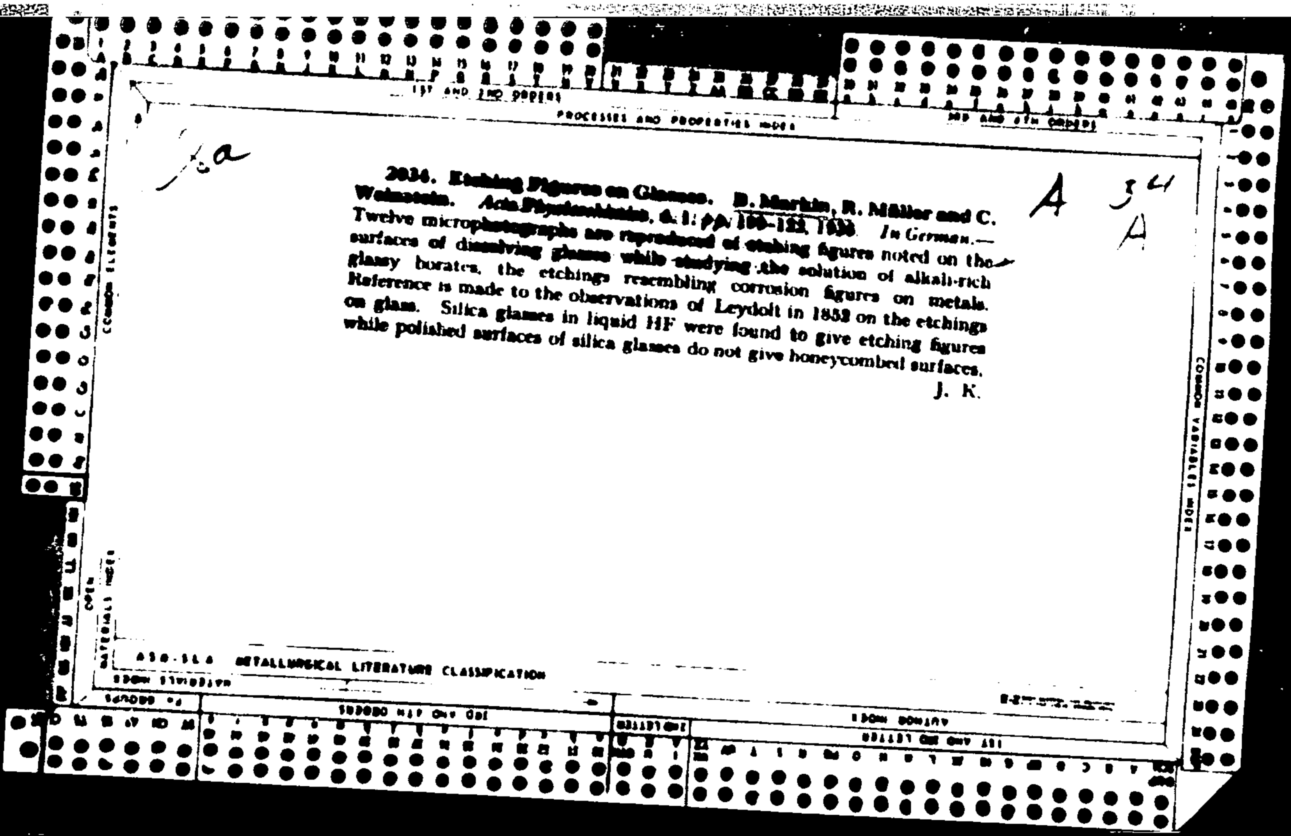
PROCESSES AND PROPERTIES INDEX

Ca

γ

The electric conductivity of glass-like alkali borates I. Markin and R. L. Müller. *Acta Physicochim. U. R. S. S.* 1, 269-81 (in German); *J. Phys. Chem.* (U. S. S. R.) 1262-71, 1272-7(1934). The elec. cond. of M_2O + O_3 glasses where M = Li, K, Rb or Cs obeys the equa- on $\ln \chi = -A/T + B$ in the case of higher alkali con- t. In solns. at concns. 1.5-2.5 *M* the value of the ol. cond. increases rapidly, after a min., especially onounced for K_2O glasses. The constancy of A, (*m* = concn.) was verified for high alkali content. The der of mobility of the ions is in the order $Li^+ > Na^+ >$ $^+ > Rb^+$. Cf. C. A. 29, 2804³. F. H. R.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



1ST AND 2ND ORDERS
PROCESSES AND PROPERTIES INDEX
3RD AND 4TH ORDERS
COMMON ELEMENTS
COMMON VARIABLES INDEX
MATERIALS INDEX
ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

Ja

A 34 A

2034. Etching Figures on Glasses. D. Markin, R. Müller and C. Weinstein. *Acta Physicochimica*, 6, 1: pp. 109-122, 1937. *In German.*—Twelve microphotographs are reproduced of etching figures noted on the surfaces of dissolving glasses while studying the solution of alkali-rich glassy borates, the etchings resembling corrosion figures on metals. Reference is made to the observations of Leydolt in 1852 on the etchings on glass. Silica glasses in liquid HF were found to give etching figures while polished surfaces of silica glasses do not give honeycombed surfaces.

J. K.

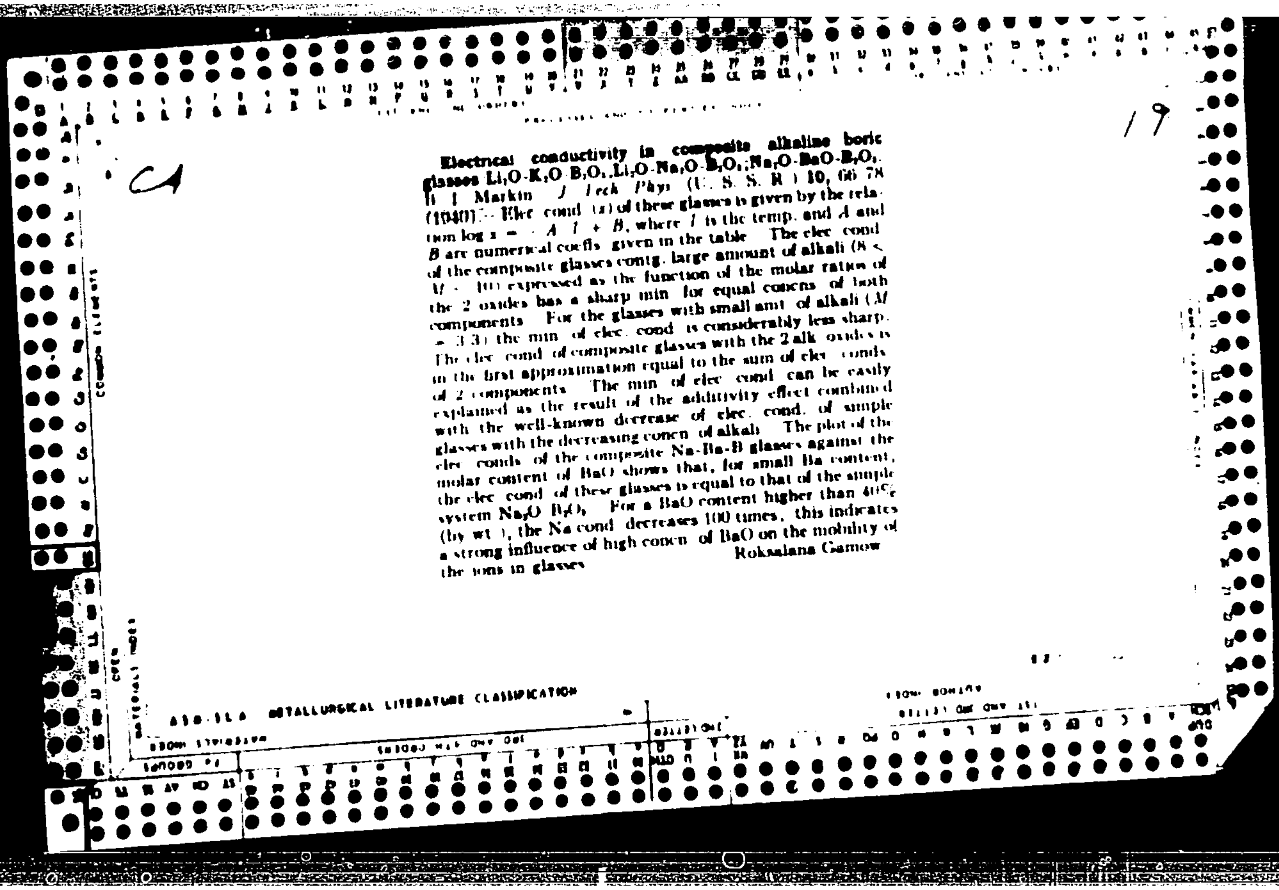
PROCESSES AND PROPERTIES INDEX

CA

2

The electrical conductivity of glassy barium borate B. Markin and R. Müller. *Acta Physicochim.* U.R.S.S. 4, 71-80(1936)(in German); cf. C.A. 29, 7765^8. Measurements are reported on glasses of varying compn. in the systems BaO-B_2O_3, Na_2O-BaO-B_2O_3 and ZnO-B_2O_3. The results conform to the relation, ln sp. cond. = -(A/T) + B. A is approx. twice as large for the Ba and Zn glasses as for the alkali glasses, but B remains const. For the mixed alkali-Ba borate glasses, A increases with increase in Ba content. L. W. Elder

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



C4

19

Electrical conductivity in composite alkaline boric glasses Li_2O-K_2O-B_2O_3, Li_2O-Na_2O-B_2O_3, Na_2O-BaO-B_2O_3. B. I. Markin. *J. Tech. Phys.* (U. S. S. R.) 10, 66-78 (1940).—Elec. cond. (x) of these glasses is given by the relation $\log x = -A/T + B$, where T is the temp. and A and B are numerical coeffs. given in the table. The elec. cond. of the composite glasses contg. large amount of alkali ($8 < M < 10$) expressed as the function of the molar ratios of the 2 oxides has a sharp min. for equal concns. of both components. For the glasses with small amt. of alkali ($M = 3.3$) the min. of elec. cond. is considerably less sharp. The elec. cond. of composite glasses with the 2 alk. oxides is in the first approximation equal to the sum of elec. conds. of 2 components. The min. of elec. cond. can be easily explained as the result of the additivity effect combined with the well-known decrease of elec. cond. of simple glasses with the decreasing concn. of alkali. The plot of the elec. conds. of the composite Na-Ba-B glasses against the molar content of BaO shows that, for small Ba content, the elec. cond. of these glasses is equal to that of the simple system Na_2O-B_2O_3. For a BaO content higher than 40% (by wt.), the Na cond. decreases 100 times; this indicates a strong influence of high concn. of BaO on the mobility of the ions in glasses.

Roksalana Gamow

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

CF

2

PROCESSES AND PROPERTIES INDEX

Electrical conductivity of argento-boric glasses B. I. Markin. *J. Gen. Chem.* (U. S. S. R.) 11, 285-92(1941); cf. C. A. 34, 7559.—Vitreous silver borates of varying compn. (10% to 60% Ag_2O, ds. from 2 to 4) are prepd. from $AgNO_3$ and boric acid; homogeneous glasses are obtained if the ingredients are first dissolved in water and the soln. evapd.; the residue is then molten. Upon cooling, a thin superficial film of metallic Ag forms on the glass. Elec. cond., measured electrometrically between Ag amalgam electrodes, at temp. from 180° to 350°, follows the law $\log \kappa = -(A/T) + B$; the sp. cond. κ is of the order 10^{-11} to 10^{-6}; T is the abs. temp., A and B are consts. Glasses with Ag_2O content less than 20% show at 283° a sudden change of the slope of the straight lines ($\log \kappa$, $1/T$), corresponding to a sudden change of A and B. With Ag_2O over 40%, the elec. current gives rise to formation of metal dendrites within the bulk of the glass; the cond. rises, the current attaining 0.5 to 0.7 amp./sq. cm. at 80 v./cm., and becomes electronic; this can be avoided by insertion of a nonelectrolyzing crystal between the electrodes and the glass. Comparison with previous work on elec. cond. of glasses with Li, Na, K, Rb, Cs, Ba and Zn ions shows similarity of shapes of the curves for E (dissocn. energy) and for $\{B - \log M\}$, plotted against [M] (metal concn.); the Ag ion has the highest mobility. N. Thon

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

Bc

2 7

Electric conductivity of silver–potassium borate glasses. B. I. Markin (J. Phys. Chem. Russ., 1944, 18, 347—[illegible]).—The conductivity κ of B_2O_3 glasses containing Ag_2O 7—43, K_2O 7—30% is determined at 200° and 300°. κ had a min. at the at. ratio Ag : K = 1 : 4; for Ag_2O 18, K_2O 30%, at 300° κ = 9·8 × $10^{[illegible]}$ ohm^{-1} cm.$^{-1}$ κ at 300° is 5—10 times that at 200°. The density of these glasses is a linear function of composition. J. J. B.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

CA

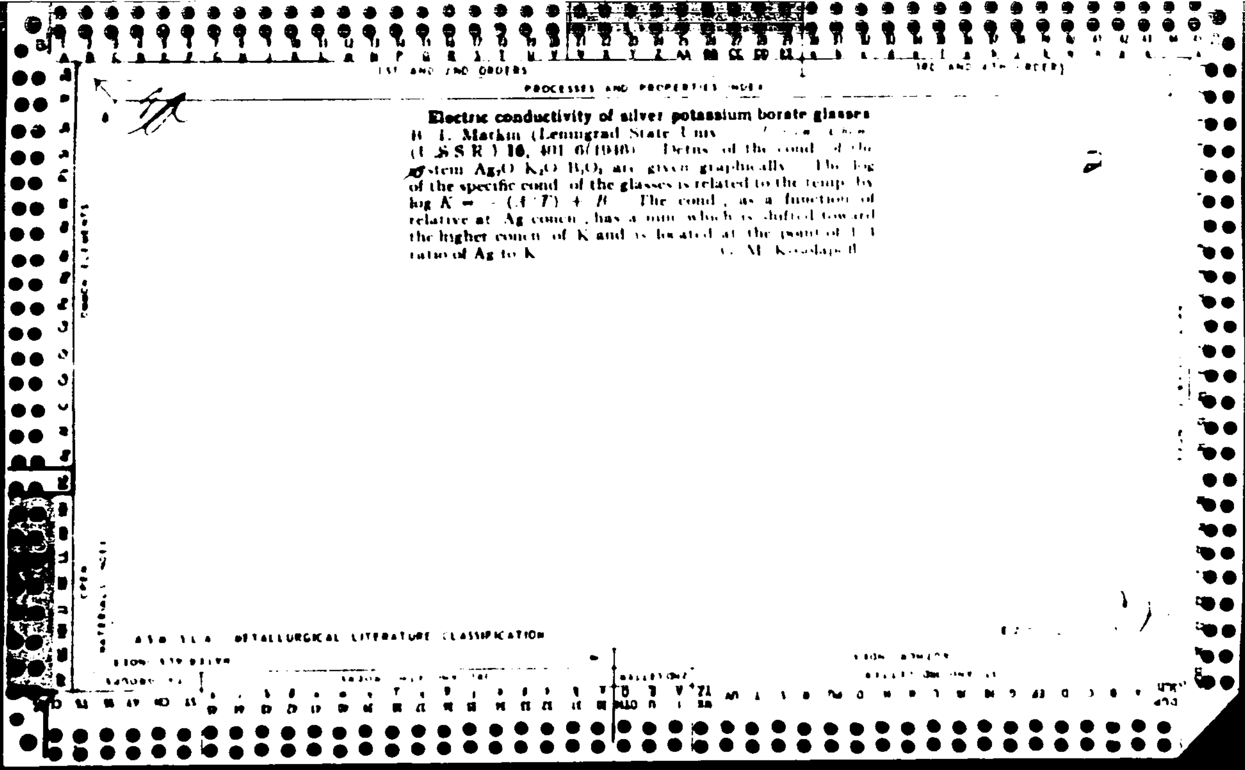
PROCESSES AND PROPERTIES INDEX

2

Electric conductivity of Ag Na borate glass. B. I. Markin. *J. Phys. Chem.* (U.S.S.R.) 18, 864-9(1944).—The elec. cond. of the system Ag_2O Na_2O-B_2O_3 was studied. For glass with combined concn. of Ag and Na of 1.0 to 1.1 g. atoms/cc. the cond. varies smoothly from its value in the binary Na system to its value in the binary Ag system. At higher metal concns. there is a small cond. min. at the Ag Na ratio 1 4. Isotherms of these glasses in all concns. lie above the isotherms of the corresponding binary systems. Displacement energy in this system has a lower value, at higher Ag concns., than it has in the corresponding binary systems. G. M. Kosolapoff

5

A S M - S L A METALLURGICAL LITERATURE CLASSIFICATION



1ST AND 2ND ORDERS
PROCESSES AND PROPERTIES INDEX
ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

Electric conductivity of silver potassium borate glasses. B. I. Markin (Leningrad State Univ. [illegible] (U.S.S.R.) 16, 401-6(1948). Detns. of the cond. of the system Ag_2O-K_2O-B_2O_3 are given graphically. The log of the specific cond. of the glasses is related to the temp. by log $K = -(A/T) + B$. The cond., as a function of relative at. Ag concn., has a min. which is shifted toward the higher concn. of K and is located at the point of 1:1 ratio of Ag to K.

C. M. Kosolapoff

MARKIN, B. I.

Markin, B.I.

Electrical conductivity of argento-boric glasses.

Zhurnal Obshchei Khimii, Vol. 11, 1948, 61-70

Guide' to Russian Scientific Periodical Literature, Dec. 1951

CA

The electrical conductivity of silver-lithium-boron glasses. B. I. Markin. *Zhur. Fiz. Khim.* 23, 1442-6 (1949); cf. C.A. 30, 2682. The elec. cond. κ of Ag-Li-B glasses (not subjected to electrolysis) is greater than κ of Ag-B and Li-B glasses and has a min. at approx. $\beta = 0.3$, where $\beta = a/(a + b)$, and a and b are concns. of Ag and Li, resp., in g.-atoms/cc. At $a + b = 0.0133$ and concn. of B (c) of 0.052-0.056, $-\log \kappa$ was 7.50, 8.40, 8.05, 7.80, and 7.00 for $\beta = 0$, 0.245, 0.473, 0.752, and 1.00, resp., at 250°. At $a + b = 0.0164$ and $c = 0.050$-0.055, $-\log \kappa$ was, e.g., 6.90, 7.20, 6.45, and 4.60 at $\beta = 0$, 0.281, 0.645, and 1.00, resp., at 300°. $\log \kappa = (A/T) + B$. T is abs. temp.; A was 9000 to 14,000 and B was 1.75-6.90 for various glasses. Presumably, the glasses contained mixed Ag and Li borates; this is confirmed by the energy of displacing ions being smaller in the ternary than in the binary systems. J. J. B.

MARKIN, B. I.

USSR/Physics - Conductivity of Glasses Jun 52

"Electric Conductivity of Alkali Borosilicate Glasses," B. I. Markin

"Zhur Tekh Fiz" Vol XXII, No 6, pp 932-940

Systematic study permits establishment of the laws governing motion of ions in glasses. Measurements were performed on sodium, potassium and borosilicate glasses. Elec cond was found to depend on temp according to the eq $\lg K = -\frac{A}{T} + B$ where A and B are consts (cf. B. I. Markin, "Zhur Tekh Fiz" 5, 9, 1934; 7, 4, 1936; 11, 4, 1941.

219T81

Markin, B. I.,

USSR.

Electrical conductivity of boron-thallium glasses. B. I. Markin. *Zhur. Tekh. Fiz.* 22, 841-8(1952); *Science Abstr.* 56A, 119(1953).—The elec. cond. of B-Tl glasses was measured in the range of concns. of the Tl oxide 20-75 wt. %. The temp. relation is of the form log $K = -A/T + B$.—The mobility of the Tl ions for not-too-high concns. of Tl_2O in the glass is slightly below the mobility of Ag ions. At high Tl_2O concns. the mobilities of Tl and Ag ions are equal and about 10 times that of alkali metal ions.

K. L. C.

[illegible]

MARKIN, Boris Ivanovich

MARKIN, Boris Ivanovich - Academic degree of Doctor of Chemical Sciences, based on his defense, 28 June 1954, in the Council of the Leningrad Order of Lenin State U imeni Zhdanov, of his dissertation entitled: "Electrical conductivity of solid inorganic glass."
For the Academic Degree of Doctor of Sciences

SO: Byulleten' Ministerstva Vyshego Obrazovaniya SSSR, List No. 2, 21 January 1956, Decisions of the Higher Certification Commission concerning academic degrees and titles.

BUBYREVA, N.S.; MARKIN, B.I.; CHMUTOV, K.V.

Attachment for the ADV-200 analytical balance for remote weighing. Zav.lab.21 no.10:1253 '55. (MLRA 9:1)

1. Institut obshchey i neorganicheskoy khimii Akademii nauk SSSR. (Balance)

Category : USSR/Atomic and Molecular Physics - Liquids D-8

Abs Jour : Ref Zhur - Fizika, No 2, 1957 No 3570

Author : Bubyreva, N.S., Chmutov, K.V., Markin, B.I.
Inst : Institute of Physical Chemistry, Academy of Sciences USSR
Title : Combined Instrument for Measurement of Viscosity and Melting Temperature.

Orig Pub : Zavod. laboratoriya, 1956, 22, No 3, 355-357

Abstract : Description of a viscosimeter, which makes it possible to determine the viscosity η of electron-conducting liquids from the time τ that a given value of liquid flows from a pipette through a calibrated capillary tube into a test tube. A set of pipettes with various capillaries makes it possible to vary η over a wide range (up to hundreds of poises). The value of τ is determined with the aid of an electric signalling scheme, which operates upon closing of a relay circuit (controlling a signal lamp), formed by the liquid and electrodes of various lengths, sodered into the test tube enclosing the pipette, and located in the lower part of the test tube. The length of τ between signals is measured with a stop watch. To measure freezing temperatures, the junctions of a differential thermocouple are introduced into two tubes, one with the investigated liquid and the other with a standard liquid, and the Kurnakov

Card : 1/2

Category : USSR/Atomic and Molecular Physics - Liquids D-8

Abs Jour : Ref Zhur - Fizika, No 2, 1957 No 3570

recording pyrometer is used to record the temperature-time and the temperature difference-time curves. The temperature of the system is regulated with the aid of a liquid flowing in the jacket of the instrument. The instrument permits remote measurements.

Card : 2/2

AUTHORS: Bubyreva, N.S., Markin, B.I., Bindas, B.P., Silkin, Yu.A., Chmutov, K.V. 76-11-31/35

TITLE: A Combined Device for the Joint Measuring of Viscosity, Density and Solidification-Melting Temperature (Kombinirovannyy pribor dlya izmereniya vyazkosti, plotnosti i temperatury zatverdevaniya-plavleniya)

PERIODICAL: Zhurnal Fizicheskoy Khimii, 1957, Vol. 31, Nr 11, pp. 2580-2583 (USSR)

ABSTRACT: A combined measuring device for the remote determination of some physical-chemical liquid constants, viz. density, viscosity, and solidification-melting temperature is described. The principal part of this device is a vessel into which a certain quantity (about 5 ml) of the liquid to be investigated is introduced by way of a siphon. For the purpose of measuring viscosity the device was first thermostatized at a given temperature for 30-60 minutes. Hereupon underpressure was produced in the pipette, the liquid rose up to the level of the electrodes, the system was connected with the outer air, and the liquid was able to emerge freely from the capillary. A comparison with liquids of known viscosity resulted in a maximum error of 2%. Errors committed when measuring density amounted to a maximum

Card 1/2

76-11-31/35

A Combined Device for the Joint Measuring of Viscosity, Density and Solidification-Melting Temperature

of 0.3% and the error committed when determining solidification melting temperature did not exceed 0.5° C. The latter was determined by means of thermograms on Kurnakov's pyrometer. There are 2 figures, 4 tables and 2 Slavic references.

SUBMITTED: April 17, 1957

AVAILABLE: Library of Congress

Card 2/2

AUTHORS: Sklyarenko, S. I., Markin, B. I., Samson, Yu. U. 76-32-3-30/47

TITLE: The Measurement of the Pressure of Saturated Vapor in the Range of 0.[illegible]10 mm Hg (Izmereniye davleniya nasyshchennogo para v predelakh 0 –10 mm rt. st.)

PERIODICAL: Zhurnal Fizicheskoy Khimii, 1958, Vol 32, Nr 3, pp 692-696 (USSR)

ABSTRACT: As the most employed kind of determination by the method of removal at low pressure is very imperfect, a new method was sought and the static method was chosen. In principle it consists in evaporating the test substance in a closed, evacuated space until the osmotic equilibrium, which is measured by a Mac Leod manometer, is attained. From the given explanation of construction and the drawing of the apparatus follows that it consists of a vacuum, evaporation and measurement system. The evaporation system is connected with a thermostat N 15 and has a diaphragm manometer, whereas the measurement system beside the Mac Leod manometer has

Card 1/3

The Measurement of the Pressure of Saturated 76-[illegible]-10/47
Vapor in the Range of 0.[illegible]0 mm Hg

two containers for a precise determination of the pressure measurements. The method of working is described. The diaphragm manometer can be used as a measuring or a zero instrument. The control of the manometer constant of the Mac Leod manometer was performed for pressures of 0.[illegible]3 mm Hg with nitrobenzene and for pressures of 3[illegible]0 mm Hg with n-butanol and the obtained values were compared with those according to Kahlbaum references and given in tables. The determinations of the pressure of saturated vapor of butyric acid yielded results which were of a fairly rectilinear order. They could, however, not be compared with published data as these are too different. The same determinations performed with iodine vapors proved the applicability of the method for investigations at lower temperatures. The obtained values are given in tables where a limit of error of [illegible]% is given. There are 3 figures, 2 tables, and 5 references, [illegible] of which are Soviet.

Card 2/3

The Measurement of the Pressure of Saturated Vapor in the Range of 0.1-10 mm Hg.

76-32-3-30/43

SUBMITTED: March 27, 1957

Card 3/3

76- [illegible]

[illegible], [illegible], [illegible]v, [illegible]

[illegible] Vapor Pressure of Low [illegible] (Opredeleniye davleniya nasyshchennogo para malo letuchikh veshchestv)

PERIODICAL: [illegible]oy Khimii, 195[illegible], Vol. [illegible], Nr 8, pp. [illegible]

ABSTRACT: [illegible] type of the determinations mentioned in the title is the effusion method. Among others also Swan [illegible] Mack [illegible] and Mek) (Ref 2) and Zil'berman-Granovskaya [illegible] this method. In the present case the measure[illegible] carried out at different temperatures in an apparatus, [illegible] diagram of [illegible] is given. It consists of a glas [illegible] quartz balance and a platinum foil with small [illegible] effusion takes place. The saturated v[illegible] [illegible]th[illegible]e, iodine, nitro-benzene, phen[illegible] [illegible] phenol were measured. The experimental conditions, the calculation formulae and the data obtained together [illegible] tation [illegible] for the ini-

Card 1/

[illegible] Vapor Pressure of Low Volatile [illegible]

[illegible] There are [illegible] figures and 17 references, [illegible]

[illegible]

[illegible] 2/

0122

15 2120 1153 1142 only

9,4300 (and 1035, 1158)

AUTHOR: Markin, [illegible]

TITLE: Investigation [illegible] ctivity [illegible] idium-boron glass[illegible]

PERIODICAL: Fizika [illegible]

TEXT The present pape[illegible] in which measurement[illegible] ctivity [illegible] idium-boron glasses has already [illegible] investigations [illegible] dependence [illegible] electric [illegible] data obtained [illegible] and some analy[illegible] Table [illegible] An investigation [illegible] the density [illegible] on the rubidium [illegible] showed that [illegible] practically [illegible] with increasing [illegible] very small [illegible] did a deviation occur [illegible] ctivity [illegible] glasses was determined by [illegible]

Card [illegible] 6

Investigati[illegible] [illegible] 4

rubidium amalgam ele[illegible] [illegible] temperature dep[illegible]ence of the spe[illegible] [illegible] showed that [illegible] glasses logκ was a linear fun[illegible] [illegible] with increasing Rb$_2$O-content, the inclination [illegible] diminished. Numerical data are given in Table [illegible] concentration dependence of the negative [illegible] conductivity showed two breaks [illegible] increases only little [illegible] with a further increase of Rb-concentration [illegible] however, increases [illegible] all boron glasses which contain univalent [illegible] interesting fact is the [illegible] equivalent conductivity [illegible] represented in Fig. 4 for the temperatures 200 [illegible] minimum is near the concentration [illegible] glasses

Card 2/6

20122

Investigation of the electric ...

S/181/61/003/002/020/050
B102/B204

have such a minimum. The amount of the minimum depends on the radius of the mobile cation. The dissociation energy E depends on the concentration m of the alkali metals according to R. L. Myuller in the following manner: $Em^n = C$, where n and C are constants. For the rubidium-boron glasses the relation is well satisfied at $[Rb] \geqslant 1.10^{-2}$ g-at/ml. Then n = 0.5 and C = 5000, which means that $E\sqrt{[Rb]} = 5000$. The position of the minimum of the equivalent conductivity depends also on temperature: with increasing temperature the minimum shifts somewhat towards higher rubidium concentrations; also other alkali-boron glasses show this effect. The minimum of the equivalent conductivity of two-component alkali-boron glasses shifts towards higher concentrations of alkali metals with one and the same temperature and growing radius of the mobile ion. There are 4 figures, 3 tables, and 5 Soviet-bloc references.

SUBMITTED: May 10, 1960 (initially) and September 26, 1960 (after revision)

Card 3/6

20122

Investigation of the electric ...

S/181/61/003/002/020/050
B102/B204

Таблица 1

Химический состав борнорубидиевых стекол

Номер стекла 1	Вес. % Rb_2O 2	M, моль/л. 3	100 [Rb] г-ат./мл 4	100 [B], г-ат./мл 5	d, г/см³ 6
59	11.5 ± 0.2	1.25	0.25	5.18	2.04
350	15.17 ± 0.08	1.70	0.34	5.15	2.113 ± 0.004
351	23.90 ± 0.06	2.90	0.58	4.92	2.250 ± 0.005
60	31.20 ± 0.05	3.80	0.76	4.62	2.34
352	34.20 ± 0.02	4.40	0.88	4.56	2.412 ± 0.04
353	38.78 ± 0.10	5.15	1.03	4.35	2.472 ± 0.002
354	43.45 ± 0.14	6.00	1.20	4.18	2.575 ± 0.000
355	47.95 ± 0.05	7.45	1.49	3.99	2.778 ± 0.002
356	52.90 ± 0.08	8.05	1.61	3.84	2.840 ± 0.013
357	57.00 ± 0.16	9.00	1.80	3.64	2.949 ± 0.000

Legend to Table 1: 1) Number of the glass. 2) Rb_2O-content in % by

Card 4/6

S/181/61/003/002/020/050
B102/B204

Investigation of the electric ...

weight. 3) Number of Rb_2O moles in mole/l. 4) Atomic Rb-concentrations. 5) Atomic boron concentration. 6) Density.

Таблица 2

Удельная и эквивалентная электропроводность борнорубидиевых стекол

Номер стекла 1	100 [Rb] г-ат./мл 2	−lg κ			−lg λ			A	B	E, ккал./моль
		200° C	250° C	300° C	200° C	250° C	300° C			
59	0.25	15.7	14.1	12.3	13.1	11.5	9.7	16600 40000	0.9 41.6	65.8 159.0
351	0.58	14.7	13.3	12.1	12.5	11.1	9.9	16240	0.40	64.5
60	0.76	12.9	11.5	10.3	10.8	9.4	8.2	16700	6.00	67.0
352	0.88	11.5	10.2	9.1	9.4	8.1	7.0	14700	4.76	58.4
353	1.03	10.1	9.0	8.1	8.1	7.0	6.1	12600	3.32	50.1
354	1.20	8.5	7.5	6.7	6.6	5.6	4.8	10980	3.67	43.7
355	1.49	7.9	7.0	6.2	6.1	5.1	4.4	10530	4.12	41.8
356	1.61	7.2	6.4	5.7	5.4	4.6	3.9	9480	3.47	37.7
357	1.80	6.8	5.9	5.2	5.1	4.2	3.5	9580	4.64	38.1

Card 5/6

20122

Investigation of the electric ...

S/181/61/003/002/020/050
B102/B204

Legend to Table 2: 1) Number of the glass. 2) Atomic Rb-concentration.

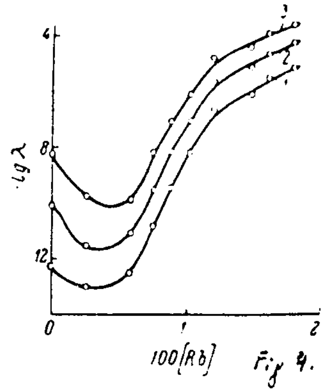


Fig 4.

4

Card 6/6

MARKIN, B. T.

Markin, B. T. - "The dynamics of the content of carrotine and vitamin C in the mountain-meadow growth of the Tereka River valley", Sbornik nauch. rabot (Vsesoyuz. nauch.-issled, in-t ovtsevodstva i kozovodstva), Issue 16, 1948, p. 185-216,- Bibliog: 14 items.

So: U-3042, 11 March 53, (Letopis 'Zhurnal 'nykh Statey, No. 7 1949).

MARKIN, I. T.

Markin, I. T. "The dynamic of vitamin A content [illegible] of sheep," Trudy [illegible] nauch.-is [illegible], Issue 17, [illegible], p. [illegible]-41

SO: [illegible], 1. August [illegible], [illegible] Kray, [illegible], 19[illegible].

MARKIN, B.T.

Synthesis of some thiourea derivatives and the determination of their growth promoting activity. Fiziol. rast. 8 no.1:86-91 '61.

(MIRA 14:3)

1. Department of Pharmacology and Biochemistry of Stavropol Agricultural Institute.

(UREA) (GROWTH PROMOTING SUBSTANCES)

MARKIN, B.T.

Synthesis of thiourea derivatives and the determination of their activity as growth promoting substances. Fiziol. rast. 10 no.4:426-431 Jl-Ag '63. (MIRA 16:8)

1. Stavropol Agricultural Institute, Department of Pharmacology and Biochemistry.

MARKIN, D. (Dnepropetrovsk)

On a durable foundation. NTO 6 no.6:47-49 Je '64.
(MIRA 17:8)

1. Spetsial'nyy korrespondent zhurnala "Nauchno-tekhnicheskiye obshchestva SSSR".

2

L 11280-63 EWA(k)/EWT(1)/FBD/BDS/T-2/3W2/EEC(b)-2/ES(t)-2--AFFTC/ASD/ESD-3/RADC/APGC/AFWL--Pl-4/Po-4--JHB/IJP(C)/WG/K/EH

ACCESSION NR: AP3000510 S/0020/63/150/002/0275/0278

94
86

AUTHOR: Bagayev, V. S.; Basov, N. G. (Corresponding Member, AN SSSR); Bul, B. M. (Corresponding Member, AN SSSR); Kopy"lovskiy, B. D.; Krokhin, O. N.; Markin, E. P.; Khvoshchev, A. N.; Shotov, A. P.

TITLE: Semiconductor quantum oscillator 25 based on the p-n transition 21 in GaAs

SOURCE: AN SSSR Doklady, v. 150, no. 2, 1963, 275-278

TOPIC TAGS: laser, gallium arsenide laser, infrared

ABSTRACT: Coherent emission has been obtained from p-n transitions on GaAs at 77K. The current pulse length was less than 3 μsec and had a repetition frequency of 50 pps. Threshold current density was about 10^4 amp/cm^2. Crystal specimens were prepared by diffusing impurities into strongly doped GaAs to secure a sufficiently flat and optically homogeneous p-n transition with an area of 10^{-3} cm^2. Two surfaces perpendicular to the transition plane were given optical flats and a high reflection coefficient. The width of the narrowed line beyond the emission threshold was 1 to 5 Å. The sharp narrowing of the line testified to the establishment of cavity feedback and commencement of oscillation. The brightness of the crystal, observed through an infrared

Card 1/2

L 11280-63
ACCESSION NR: AP3000510 ,

8

microscope, sharply increased upon crossing the threshold; the bright region of the crystal was 10 to 15 μ wide. Two photos of the bright regions are given, corresponding to injection currents of 10 and 18 a. Increasing current density reduced the width of the emitting regions, apparently because of the stimulated recombination processes occurring in an area of shorter initial diffusion length. Some specimens manifested simultaneous emission from two transitions in parallel planes spaced 30 μ apart. "The authors express their thanks to L. Ya. Krol' for placing the monocrystals of gallium arsenide at their disposal, Yu. N. Kopolev, N. N. Borzunov, L. N. Novak, and Yu. P. Zakharov for their help with the work, and to V. I. Maly*shev and A. M. Leontovich for a wealth of valuable advice." Orig. art. has: 13 formulas and 3 figures.

ASSOCIATION: Fizicheskiy institut im. P. N. Lebedeva Akademii nauk SSSR (Physics Institute, AN SSSR)

SUBMITTED: 11Feb63 DATE ACQ: 12Jun63 ENCL: 00

SUB CODE: PH NO REF SOV: 007 OTHER: 003

1s/W
Card 2/2

MARKIN, F.Ye.

Nature of aromatic systems. Khim. v shkole 18 no.3:15-24 My-Je '63. (MIRA 16:9)

(Aromatic compounds)

MARKIN, F.Ye., uchitel'

Simple gas burner. Khim. v shkole 15 no.4:63-64 Jl-Ag '60.
(MIRA 13:9)

1. Srednyaya shkola No 11, g Uzhgorod.
(Burners)

21471

S/028/61/000/006/001/002
D203/D305

18 1140

AUTHOR: Markin, G.A.

TITLE: Cast permanent magnets. GOST 9575-60. Cast permanent magnets. Engineering requirements. Applicable from July 1, 1961.

PERIODICAL: Standartizatsiya, no. 6, 1961, 58-59

TEXT: The new standard applies to cast, heat treated magnets, used for electrical measuring instruments and radio engineering instruments. Included in GOST 9575-60 are alloys already in use, as well as those to be introduced (YuNDK3575, YuNDK24B). It is recommended that alloy YuNKT2 should be used in preference to alloy YuMNDK18 (ANKo3), as its specific magnetic energy is 50% greater. In order to increase the elasticity and prevent crack formation, iron containing up to 0.1% S is added to the magnet alloys. It is further recommended that Ti should be added to alloys YuND8, YuNDK35T5, YuNDK24T2 and YuNDK24 (up to 0.3, 2.0 and 5.0%, respectively); this element combines with, and thus fixes,

Card 1/3

21471

S/028/61/000/006/001/002
D203/D305

Cast permanent magnets...

part of the carbon. Up to 0.8% Nb is added to alloys YuNDK24B and YuNDK25BA. Tables 2 and 3 of this specification show the chemical compositions of magnet alloys, as well as the chemical composition and types of metals used as charge for the manufacture of these alloys. Particular attention is paid to the impurity content of the charge metals, as these influence the magnetic properties adversely. Nb is added to the alloys in the form of Fe-Nb alloys. It is not recommended that nickel N1, aluminum A1 and copper M1 and M2 be used for the manufacture of Co-bearing magnets. Armco iron A, titanium iodide, spongy Ti and Nb must conform to the requirements of specifications for these metals. Table 1 shows the specifications for the magnetic properties of cast permanent magnets after heat treatment. A lower magnetic field induction (B_D) or intensity (H_D) is permitted, while the existing specific magnetic energy $(BH)_{max.}$ value is retained. For magnetic alloys YuND12, YuND8, YuNDK15, YuNDK18, YuNDK24T2, YuNDK24, YuNDK24B, YuNDK25A and YuNDK25BA, weighing between 1 and 2 kg, and for alloy YuNDK35T5, weighing between 0.5 and 1 kg, a drop in magnetic properties

21471

Cast Permanent magnets... S/028/61/000/006/001/002
D203/D305

off up to 15% as compared with those listed in the standard specifications is permitted. The dimensions and magnetic properties of magnets are controlled by 100% inspection. In a supplement to this standard specification, a method is recommended for producing a crystal texture in YuNDK25A and YuNDK25BA alloy magnets. Casting into a water-cooled copper mould is recommended, the ingot then being transferred to a furnace maintained at a temperature of 1350-1400°C. The temperature of the metal prior to casting must be within the limits 1580 and 1650°C. The direction of the crystal texture must coincide with that of the thermomagnetic treatment.

Card 3/3

MARKIN, G.A.; MAYBORODA, I.S.

Iron ore and manganese industry in the United States during [illegible].
Met. i gornorud. prom. no.3:95 My-Je '63. (MIRA 17:1)

MARKIN, G. A.

MARKIN, G.A. (Director, Vet rinary Hospital, Balashikhin rayon Moscow oblast.,
Experiment at treating endometritis in mares with synestrol.

So: Veterinariya; 23; (8-9); August/September 1946; uncl.
TABCON

MARKIN, G.A

C

11-H

Effect of synestrol on lactation of dry cows and heifers. G. A. Markin. *Veterinariya* 23, No. 10-11, 40-1(1946).—Synestrol, given in 10-16 injections of 1.5-2 cc. of 1% oil soln. per dose, led to lactation in dry cows completely analogous to that of normal animals, and even incited lactation in heifers (a case of an underdeveloped 3-yr. old animal is cited). No ill effect was observed on subsequent fecundity of the animals.

G. M. Kosolapoff

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

MARKIN, G.A., inzhener, kandidat veterinatnykh nauk.

Storing frozen meat at - 18°. Khol.tekh.31 no.1:33-38 Ja-Mr '54.
(MLRA 7:4)
(Meat, Frozen) (Cold storage)